

AMENDMENTS TO THE DRAWINGS:

The attached two sheets of drawings include changes to Figures 5 and 6.

The drawings are corrected so as to utilize only one reference character to designate each feature, and label each figure in English.

Attachment: 2 Replacement Sheets

REMARKS

This application is amended in a manner believed to place it in condition for allowance at the time of the next Official Action.

Applicants acknowledge with great appreciation the indicated allowable subject matter of claim 5. Claim 1 is amended to recite "calcium aluminate based cement", which encompasses one of the powdered material recited in claim 5.

Claims 1, 5, 38-40, 55, 56 and 60 are amended.

Support for the amendment to the claims may be found generally throughout the specification, for example, at specification, page 7, lines 15-16.

Claims 1-5 and 28-60 remain pending in the application.

Claims 28-38 were withdrawn from further consideration as being directed to a non-elected invention.

The Official Action objects to the drawings under 37 CFR 1.84(p)(4) for using the label "3" to designate two different features in Figures 1-5, omitting a label of "Fig. 6" for Figure 6, and including Swedish language labels in Figure 6.

Replacement sheets are provided with this amendment to correct the drawings, and, therefore, withdrawal of the objection is respectfully requested.

The disclosure is objected to because of informalities, such as the term "phosphor" and the phrase "a phase that has a capacity to form water soluble phosphate".

The specification is amended to disclose "phosphorous" instead of "phosphor" as suggested by the Examiner.

As to the phrase "a phase that has a capacity to form water soluble phosphate", it is believed to be apparent that such a phase would be able to provide phosphate or phosphorous-containing ions in an aqueous liquid, e.g., as discussed at specification page 8, lines 8-17.

Therefore, withdrawal of the objection is respectfully requested.

The Official Action also objects to the specification for not providing proper antecedent basis for the subject matter of claims 3, 4, 50, 56 and 58.

With respect to claims 3 and 56, in particular, applicants respectfully note that these claims are directed to originally claimed subject matter, and, thus, these are supported by the original disclosure. See, e.g., MPEP §608.01(1).

As to claim 4, specification page 1, line 9 discloses the recited liquid pH.

As to claims 50 and 58, citrates are described in the original specification at page 9, lines 20-32 in view of the paragraph that bridges pages 9 and 10. That is, citrates are disclosed as either separately applied etching agents or added to the bonding system directly.

Therefore, withdrawal of this objection is respectfully requested.

Claim 60 is objected to for being of improper form for not further limiting the subject matter of previous claim.

This claim is amended to further limit claim 1, and withdrawal of the objection is respectfully requested.

Claims 5, 45, 49, 51, 52, 54 and 55 are rejected under 35 USC §112, first paragraph, as not complying with the written description requirement. This rejection is respectfully traversed.

As to claim 5, the claim is amended to recite  $\text{CaO} \bullet \text{Al}_2\text{O}_3$  only.

With respect to claim 45, original claim 32 the international application, and specification page 11, line 17 describes the size of the crystals in layers 2 and/or 3 as at the most 5  $\mu\text{m}$ . Thus, the powdered material used to form these layers would be at most 5  $\mu\text{m}$ . Accordingly, as evidenced by the original disclosure, applicants did have possession of the claimed invention at the time the application was filed.

As to claim 49, 51, 52, 54 and 55, these features find support in original claims 11, 13, 14, 20 and 21 of the international application, respectively. Thus, as evidenced by the fact that these features appeared in the original disclosure, applicants did have possession of the claimed invention at the time the application was filed.

Therefore, withdrawal of the written description requirement rejection is respectfully requested.

Claims 1-4 and 39-60 are rejected under 35 USC §112, second paragraph, as being indefinite. This rejection is respectfully traversed.

Specifically, the claims are rejected for reciting "a phase that has the capacity to form water soluble phosphate". However, as discussed above, it is believed to be apparent that such a phase would be able to provide phosphate or phosphorous-containing ions in an aqueous liquid, e.g., as discussed at specification page 8, lines 8-17.

With respect to the grains of claim 47 being unclear as to whether the grains are water soluble phosphates or phases which have the capacity to form water soluble phosphates, the specification discloses at page 5, lines 28-29 that the grains of phosphate-containing phase are preferably hydroxyapatite and fluoride-apatite, and provide the effect of preventing precipitation of apatite. Thus, it is believed that the term is clear in view of the specification.

As to claims 54 and 55, the claims are different because claim 55 recites "a bonding liquid", which is described at page 8 of 17-21.

With respect to claim 56, claim 56 is amended to be definite.

As to claim 60, in particular, this claim is amended to be definite.

Therefore, withdrawal of the indefiniteness rejection is respectfully requested.

Claims 1-4, 39-41, 43, 45-50, 53-56 and 58 are rejected under 35 USC §102(b) as being anticipated by Re 33,221; claims 1-3, 39-41, 44, 46-47, 49 and 53-56 are rejected under 35 USC §102(b) as being anticipated by U.S. 4,959,104; claims 1-4, 39-41, 53-56 and 58 are rejected under 35 USC §102(b) as being anticipated by U.S. 5,342,441; claims 1-4, 39-41, 43, 45, 53-56 and 58 are rejected under 35 USC §102(b) as being anticipated by U.S. 5,525,148. These rejections are respectfully traversed.

All of the above publications applied in the anticipation rejections are limited to calcium phosphate based systems.

The presently claimed invention, however, is directed to a calcium aluminate based system. See, e.g., the independent claim 1.

Therefore, none of the above applied publications can anticipate the present claims, and withdrawal of these anticipation rejections is respectfully requested.

Claims 1-3, 40, 41, 46 and 47 are rejected under 35 USC §102(b) as being anticipated by BROTHERS et al. U.S. 6,143,069 ("BROTHERS"). This rejection is respectfully traversed.

BROTHERS is offered for teaching a hydraulic cement system comprising powder comprising calcium aluminate, sodium polyphosphate and water.

While BROTHERS discloses a calcium aluminate based cement composition, the publication belongs to a completely different field of technology, i.e., cementing of geothermal wells. Such a composition has not been suggested for *in vivo* applications.

Moreover, in the preferred embodiments (col. 4, lines 32-56 of BROTHERS) the cement includes about 50% of fly ash, which is predominantly an alumino silicate (col. 3, lines 37-38).

Also, the capability of forming apatite is entirely optional, and no benefits have been recognized (col. 3, lines 16-22). Consequently, this is not suitable for *in vivo* applications.

Furthermore, in order for formation of apatite to be enabled, the addition of a phosphate is not required. The required water soluble phosphate of the claimed invention may instead be provided by the human body phosphate buffer system, as explained on page 4, line 30 to page 5, line 4 of the present specification. Thus, BROTHERS cannot anticipate the claimed invention.

BROTHERS also fails to render obvious the claimed invention, as one of ordinary skill in the art would not have been motivated to modify such a composition so as to be suitable for *in vivo* applications.

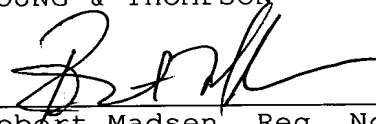
Therefore, withdrawal of this rejection is respectfully requested.

In view of the amendments to the present application and the foregoing remarks, therefore, applicants believe that the present application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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**APPENDIX:**

The Appendix includes the following item(s):

- 2 Replacement Sheets